Attorney's Docket No.: 08935-240001 / M-4931A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David L. Anglin
Serial No. : 09/829,709
Filed : April 10, 2001
Title : BATTERY CATHODE

Art Unit : 1745
Examiner : Julian Mercado

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RENEWED PETITION UNDER 37 CFR 1.137(A)

In response to the Response to the petition under 37 CFR 1.137(b) filed April 15, 2005, Applicant submits the required reply under 37 CFR 1.137(b). A petition fee and a statement under 37 CFR 1.137(b) have been previously filed on April 12, 2005.

Applicant hereby petitions to revive the above application, which was abandoned for failure to respond to the Official Action mailed July 14, 2004.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: July 25, 2005

Tu N. Nguyen
Reg. No. 42,934

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

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CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

July 25, 2005
Date of Deposit

Signature

Sherry L. Hunt
Typed or Printed Name of Person Signing Certificate

Attorney's Docket No.: 08935-240001 / M-4931A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David L. Anglin
Serial No. : 09/829,709
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MAIL STOP PETITIONS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION TO REVIVE APPLICATION UNDER 37 CFR §1.137(b)

Applicant hereby petitions under 37 CFR §1.137(b) to revive the above application, which was abandoned on April 5, 2005 for failure to respond to the Official Action mailed July 14, 2005.

Enclosed is 1) Request for Continued Examination to continue prosecution of the application and 2) a check for $1500 in payment of the petition fee by a large entity as set forth in 37 CFR §1.17(m).

Applicant submits that the entire period of delay was unintentional.

Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 12, 2005

Robert C. Nabinger
Reg. No. 33,431

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906
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April 12, 2005
Date of Deposit

Signature

Sherry L. Hunt
Typed or Printed Name of Person Signing Certificate

Attorney's Docket No.: 08935-240001 / M-4931A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Art Unit : 1745
Examiner : Julian Mercado

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION FOR THREE-MONTH EXTENSION OF TIME

Pursuant to 37 CFR §1.136, applicant hereby petitions that the period for response to the action dated July 14, 2004, be extended for three months to and including January 14, 2005.

Enclosed is a check for $910.00 for the required fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: January 14, 2005

Tu N. Nguyen
Reg. No. 42,934

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

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CERTIFICATE OF MAILING BY FIRST CLASS MAIL

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January 14, 2005
Date of Deposit

Signature

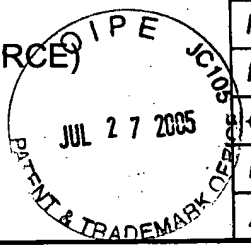
Sherry L. Hunt
Typed or Printed Name of Person Signing Certificate

FISH & RICHARDSON P.C.

Substitute Form PTO/SB/30 (5-03)

Request For Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450



Application Number	09/829,709
Filing Date	April 10, 2001
First Named Inventor	David L. Anglin
Group Art Unit	1745
Examiner Name	Julian Mercado
Attorney Docket Number	08935-240001

This is a Request for Continued Examination (RCE) under 37 C.F.R. §1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 C.F.R. §1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s)

   a. ☒ Previously submitted. If a final Office action is outstanding, any amendment filed after the final Office action may be considered as a submission even if this box is not checked.

      i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. ☐ Other _____

   b. ☐ Enclosed

      i. ☐ Amendment/Reply

      ii. ☐ Affidavit(s)/Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. §1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. §1.17(i) required)

   b. ☐ Other _____

3. Fee The RCE fee under 37 C.F.R. §1.17(e) is required by 37 C.F.R. §1.114 when the RCE is filed.

   a. ☒ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 06-1050

      i. ☐ RCE fee required under 37 CFR 1.17(e)

      ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)

      iii. ☒ Other Any deficiencies

   b. ☒ Check in the amount of $ 790 enclosed

   c. ☐ Payment by credit card (Form PTO-2038 enclosed)

SIGNATURE OF APPLICANT, ATTORNEY OR AGENT REQUIRED

Name (Print/Type)	Tu N. Nguyen	*Registration No. (Attorney/Agent)*	42,934
Signature	Tu N. Nguyen	*Date*	January 14, 2005

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Name (Print/Type)	Sherry L. Hunt		
Signature	Sherry L. Hunt	*Date*	January 14, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David L. Anglin
Serial No. : 09/829,709
Filed : April 10, 2001
Title : BATTERY CATHODE

Art Unit : 1745
Examiner : Julian Mercado

MAIL STOP AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT IN REPLY TO ACTION OF JULY 14, 2004

Please amend the above-identified application as follows:

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

November 15, 2004
Date of Deposit

Alissa Passacantilli
Signature

Alissa Passacantilli
Typed or Printed Name of Person Signing Certificate

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A primary alkaline battery, comprising:

a cathode comprising a cathode active material and ~~more than~~ between about 6% and about 10% of carbon fibers by weight;

an anode;

a separator; and

an alkaline electrolyte.

2. (Canceled)

3. (Original) The battery of claim 1, wherein the cathode comprises more than about 7% of carbon fibers by weight.

4. (Original) The battery of claim 1, wherein the cathode comprises more than about 8% of carbon fibers by weight.

5. (Original) The battery of claim 1, wherein the cathode comprises more than about 9% of carbon fibers by weight.

6. (Canceled)

7. (Previously Presented) The battery of claim 1, wherein the cathode comprises between about 6% and about 7% of carbon fibers by weight.

8. (Original) The battery of claim 1, wherein the cathode active material comprises manganese dioxide.

9. (Original) The battery of claim 1, wherein the cathode comprises less than about 90% of cathode active material by weight.

10. (Original) The battery of claim 1, wherein the cathode comprises less than about 88% of cathode active material by weight.

11. (Original) The battery of claim 1, wherein the cathode comprises between about 82% and about 92% of cathode active material by weight.

12. (Original) The battery of claim 1, wherein the cathode comprises between about 84% and about 90% of cathode active material by weight.

13. (Original) The battery of claim 1, wherein the carbon fibers have an average diameter less than about 300 nanometers.

14. (Original) The battery of claim 1, wherein the carbon fibers have an average diameter between about 100 nanometers and about 250 nanometers.

15. (Original) The battery of claim 1, wherein the carbon fibers have an average diameter less than about 250 nanometers.

16. (Original) The battery of claim 1, wherein the carbon fibers have been heat treated.

17. (Original) The battery of claim 16, wherein the carbon fibers have been heat treated at a temperature greater than about 2000 °C.

18. (Previously Presented) The battery of claim 16, wherein the carbon fibers have been heated treated at a temperature between about 2600 °C and about 3100 °C.

19. (Original) The battery of claim 1, wherein the carbon fibers have a length less than about 2×10^5 nanometers.

20. (Original) The battery of claim 1, wherein the carbon fibers have an average length between about 500 nanometers and about 200,000 nanometers.

21. (Original) The battery of claim 1, wherein the carbon fibers have an average length between about 70,000 nanometers and about 100,000 nanometers.

22. (Original) The battery of claim 1, wherein the carbon fibers have between about 1 and about 500 layers of graphite.

23. (Original) The battery of claim 22, wherein the carbon fibers have between about 40 and about 100 layers of graphite.

24. (Original) The battery of claim 1, wherein the carbon fibers have an average external surface area between about 10 m^2/g and about 50 m^2/g.

25. (Original) The battery of claim 1, wherein the carbon fibers have a surface energy between about 50 mJ/m^2 and about 300 mJ/m^2.

26. (Original) The battery of claim 1, wherein the carbon fibers have a graphitic index of less than about 85%.

27. (Original) The battery of claim 1, wherein the carbon fibers have an average length equal to or greater than an average particle size of the cathode active material.

28. (Original) The battery of claim 1, wherein the cathode further comprises a surfactant.

29. (Previously Presented) The battery of claim 28, wherein the surfactant is selected from the group consisting of polyvinyl alcohol, ethylene-vinyl alcohol, and polyvinylbutyrol.

30. (Original) The battery of claim 1, wherein the anode comprises zinc as an anode active material.

31. (Currently Amended) A primary alkaline battery, comprising:

a cathode comprising manganese dioxide and ~~more than~~ between about 6% and about 10% by weight of heat-treated carbon fibers having an average diameter less than about 300 nanometers;

an anode;

a separator; and

an alkaline electrolyte.

32. (Canceled)

33. (Previously Presented) The battery of claim 31, wherein the cathode comprises between about 6% and about 7% of carbon fibers by weight.

34. (Original) The battery of claim 31, wherein the cathode has an electrical conductivity at least 3 times greater than a cathode having about 6% of graphite by weight.

35. (Currently Amended) A primary alkaline battery, comprising:

a cathode comprising between about 82% and about 92% of cathode active material by weight and ~~more than~~ between about ~~5%~~ 6% and about 10% of heat-treated carbon fibers by weight;

an anode;

a separator; and

an alkaline electrolyte.

36. (Previously Presented) The battery of claim 35, wherein the cathode comprises between about 84% and about 90% of the cathode active material by weight.

37. (Canceled)

38. (Canceled)

39. (Previously Presented) The battery of claim 35, wherein the carbon fibers have an average diameter less than about 300 nanometers.

40. (Previously Presented) The battery of claim 35, wherein the carbon fibers have an average diameter between about 100 nanometers and about 250 nanometers.

41. (Previously Presented) The battery of claim 35, wherein the carbon fibers have an average diameter less than about 250 nanometers.

42. (Canceled)

43. (Previously Presented) The battery of claim 42, wherein the carbon fibers have been heat treated at a temperature greater than about 2000 °C.

44. (Previously Presented) The battery of claim 42, wherein the carbon fibers have been heated treated at a temperature between about 2600 °C and about 3100 °C.

45. (Previously Presented) The battery of claim 35, wherein the carbon fibers have a length less than about 2×10^5 nanometers.

46. (Previously Presented) The battery of claim 35, wherein the carbon fibers have an average length between about 500 nanometers and about 200,000 nanometers.

47. (Previously Presented) The battery of claim 35, wherein the carbon fibers have an average length between about 70,000 nanometers and about 100,000 nanometers.

48. (Previously Presented) The battery of claim 35, wherein the carbon fibers have between about 1 and about 500 layers of graphite.

49. (Previously Presented) The battery of claim 48, wherein the carbon fibers have between about 40 and about 100 layers of graphite.

50. (Previously Presented) The battery of claim 35, wherein the carbon fibers have an average external surface area between about 10 m^2/g and about 50 m^2/g.

51. (Previously Presented) The battery of claim 35, wherein the carbon fibers have a surface energy between about 50 mJ/m^2 and about 300 mJ/m^2.

52. (Previously Presented) The battery of claim 35, wherein the carbon fibers have a graphitic index of less than about 85%.

53. (Previously Presented) The battery of claim 35, wherein the carbon fibers have an average length equal to or greater than an average particle size of the cathode active material.

54. (Previously Presented) The battery of claim 35, wherein the cathode further comprises a surfactant.

55. (Previously Presented) The battery of claim 35, wherein the surfactant is selected from the group consisting of polyvinyl alcohol, ethylene-vinyl alcohol, and polyvinylbutyrol.

56. (Previously Presented) The battery of claim 35, wherein the anode comprises zinc as an anode active material.

REMARKS

Applicant amended claims 1, 31, and 35, and canceled claims 6, 32, 37, 38, and 42. In particular, the independent claims (1, 31, and 35) are amended to include the features of claim 6. Claims 1, 3-5, 7-31, 33-36, 39-41, and 43-56, of which claims 1, 31 and 35 are in independent form, are presented for examination.

Claims 1, 3-10, 16-19, 30-33, 42-45, and 56 are rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 0 962 997 (Friend) in view of U.S. Patent No. 4,177,157 (Adams).

But neither Friend nor Adams discloses or suggests a cathode comprising between about 6% and about 10% of carbon fibers by weight, as claimed. As acknowledged by the Examiner, Friend does not teach using more than about 6% of carbon fibers. (See, e.g., Office Action mailed December 2, 2003, page 3.) Similarly, Adams also does not disclose or suggest using between about 6% and about 10% of carbon fibers by weight:

> The total graphite content of a nickel electrode, for example, advantageously comprises up to about 30% by weight of the dry filter cake with about 23%-30% being preferred. The graphite therein is preferably in both the powdered and fibrous form (i.e. about 0.5 mm long), there being about half again as much powdered graphite (i.e. by weight) as there is fibrous graphite, though this can vary considerably.

(col. 4, lines 28-36.) Rather, it appears that Adams discloses using at best about 11.5%-15% or 10.5% of carbon fibers by weight. Thus, neither of the cited references disclose or suggest the claimed range. Even if the references could be combined, which Applicant does not concede, the combination would not result in the claimed battery. For at least this reason, the rejection should be reconsidered and withdrawn.

Under 35 U.S.C. § 103(a), claims 11, 12, and 35-38 are rejected as being unpatentable over Friend in view of Adams and further in view of U.S. Patent No. 4,948,484 (Andersen), claims 13-15, 20-22, 29-41, 46-48, and 50 are rejected as being unpatentable over Friend in view of Adams and further in view of U.S. Patent No. 4,923,637 (Yagi); claims 23 and 49 are rejected as being unpatentable over Friend in view of Adams and Yagi and further in view of Lafdi and Wright, Carbon Fibers from Handbook of Composites (Lafdi); claims 26 and 52 are rejected as

being unpatentable over Friend in view of Adams and further in view of U.S. Patent No. 4,005,183 (Singer); claim 34 is rejected as being unpatentable over Friend in view of Adams and further in view of Lafdi; claims 24, 25, 50 and 51 are rejected as being unpatentable over Friend in view of Adams and further in view of U.S. Patent No. 6,506,355 (Glasgow); claims 27 and 53 are rejected as being unpatentable over Friend in view of Adams and further in view of U.S. Patent No. 5,482,798 (Mototani); claims 28 and 54 are rejected as being unpatentable over Friend in view of Adams and further in view of U.S. Patent No. 4,777,100 (Chalilpoyil); and claims 29 and 55 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Friend in view of Adams and further in view of U.S. Patent No. 6,287,730 (Callahan).

As indicated above, the claims have been amended to include the features of now-canceled claim 6, which was not rejected as being unpatentable over combinations of the above references. Accordingly, these rejections should be withdrawn.

Information Disclosure Statements

Applicant request that the Examiner review the enclosed Information Disclosure Statements (IDSs) and return initialed copies of the Form 1449s. These IDSs were filed on April 10, 2001; June 1, 2001; August 27, 2001; and March 16, 2004, and according to PAIR, it appears that the Patent Office did received them.

Applicant believes the claims are in condition for allowance, which action is requested.

Enclosed is a Petition for Extension of Time check and the fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: November 15, 2004

Tu N. Nguyen
Reg. No. 42,934

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

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Art Unit : 1745
Examiner : Julian Mercado

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION FOR ONE-MONTH EXTENSION OF TIME

Pursuant to 37 CFR §1.136, applicant hereby petitions that the period for response to the action dated July 14, 2004, be extended for one month to and including November 14, 2004.

Enclosed is a check for $110 for the required fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: NOVEMBER 15, 2004

Tu N. Nguyen
Reg. No. 42,934

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

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Alissa Passacantilli
Typed or Printed Name of Person Signing Certificate